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10/798,270	03/12/2004	Chang-yeob Choo	1793.1168	5868

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EXAMINER	
GIESY, ADAM	

ART UNIT	PAPER NUMBER
2627	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/798,270	CHOO ET AL.	
	Examiner	Art Unit	
	Adam R. Giesy	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7-12 and 15-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-12 and 15-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 33 is objected to because of the following informalities:

Examiner asserts that line 3 of claim 33 should read –at least one of:-- instead of "at least one of,".

Appropriate correction is required.

2. Claims 20 and 28 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 20 and 28 recite lowering the CAV by two steps depending on the severity of the error which is already a limitation that was added to the parent claims 17 and 25 in the previous amendment on 11/26/2007.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4, 9-12, 17-20, 25-28, and 33-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldstein (EP Pat. No. 1,160,787 A2) in view of Koudo et al. (hereinafter Koudo – US Pat. No. 5,956,307).

Regarding claim 1, Goldstein discloses a method of recording data, the method comprising: recording the data on an optical disc that is rotating at a predetermined velocity (see Figure 2, element 206); determining whether a data recording error occurs (elements 208 and 210); and if it is determined that the data recording error has occurred, rotating the optical disc at an adjusted velocity which is lower than the predetermined velocity, and recording the data on the optical disc that is rotating at the adjusted velocity (see column 9, line 40 thru column 10, line 25), wherein the adjusted velocity is one step or two steps lower than the predetermined velocity, according to an extent of the data recording error (see column 10, lines 12-25). Although Goldstein discloses a recording speed, Goldstein does not distinctly disclose "constant angular velocity.'

Koudo discloses a device for controlling the rotation of an optical disc wherein the disc is rotated at a constant angular verlocity (see column 32, lines 30-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo, the motivation being to lower power consumption and lessen heat generation within the drive.

Regarding claim 2, Goldstein and Koudo disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Goldstein further discloses determining whether the data recording error occurs while the optical disc is rotated at the adjusted constant angular velocity, and if the data recording error is determined to exist, rotating the optical disk at a constant angular velocity that is lower than the adjusted constant

angular velocity, and recording the data on the optical disc (see Figure 2, elements 208 and 210).

Regarding claim 3, Goldstein and Koudo disclose all of the limitations of claim 2 as discussed in the claim 2 rejection above. Goldstein further discloses repeatedly determining whether the data recording error occurs while the optical disk is rotating (see column 9, lines 31-34).

Regarding claim 4, Goldstein and Koudo disclose all of the limitations of claim 3 as discussed in the claim 3 rejection above. Goldstein further discloses rotating the optical disc at a lower constant angular velocity whenever the data recording error is detected (see Figure 2, lines 216-228).

Regarding claim 9, discloses a method of reproducing data, the method comprising: reproducing the data from an optical disc that is rotating at a predetermined velocity (see Figure 2, element 206); determining whether a data reproduction error occurs (elements 208 and 210); and if it is determined that the data reproduction error has occurred, rotating the optical disc at an adjusted velocity which is lower than the predetermined velocity, and reproducing the data from the optical disc (see column 9, line 40 thru column 10, line 25), wherein the adjusted velocity is one step or two steps lower than the predetermined velocity, according to an extent of the data recording error (see column 10, lines 12-25). Although Goldstein discloses a recording speed, since the method disclosed by Goldstein deals with the rotation of the disc in relation to the amount of data in the buffer, the method of Goldstein will apply to both recording and reproducing operations since reproducing operations also require the use of a buffer

and can be reproduced at different speeds (see column 15, lines 18-50). Goldstein does not distinctly disclose "constant angular velocity.'

Koudo discloses a device for controlling the rotation of an optical disc wherein the disc is rotated at a constant angular verlocity (see column 32, lines 30-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo, the motivation being to lower power consumption and lessen heat generation within the drive.

Regarding claim 10, Goldstein and Koudo disclose all of the limitations of claim 9 as discussed in the claim 9 rejection above. Goldstein further discloses determining whether a data reproduction error occurs while the optical disc is rotated at the adjusted constant angular velocity, and if the data reproduction error is determined to exist, rotating the optical disc at a constant angular velocity which is lower than the adjusted angular velocity, and reproducing the data from the optical disc (see Figure 2, elements 208 and 210).

Regarding claim 11, Goldstein and Koudo disclose all of the limitations of claim 9 as discussed in the claim 9 rejection above. Goldstein further discloses repeatedly determining whether the data reproduction error occurs while the optical disk is rotating (see column 9, lines 31-34).

Regarding claim 12, Goldstein and Koudo disclose all of the limitations of claim 11 as discussed in the claim 11 rejection above. Goldstein further discloses rotating the

optical disc at a lower constant angular velocity whenever the data reproduction error is detected (see Figure 2, lines 216-228).

Regarding claim 17, Goldstein discloses an apparatus for recording data, the apparatus comprising: a motor driver which controls a motor which rotates an optical disc at a velocity (see Figure 1, element 114); an optical pickup which irradiates light onto the optical disc, detects the light reflected from the optical disc, and outputs a radio frequency signal corresponding to the reflected light (element 110); a radio frequency signal processor which, in response to the radio frequency signal, generates and outputs a recording error signal that indicates whether a data recording error occurs (elements 108 and 102); and a controller which, in response to the recording error signal, determines whether the data recording error occurs, and if it is determined that the data recording error has occurred, controls the motor driver to rotate the optical disc at an adjusted velocity which is lower than a predetermined velocity (element 102; see also column 9, line 40 thru column 10, line 25), wherein the adjusted velocity is one step or two steps lower than the predetermined velocity, according to an extent of the data recording error (see column 10, lines 12-25). Although Goldstein discloses a recording speed, Goldstein does not distinctly disclose "constant angular velocity.'

Koudo discloses a device for controlling the rotation of an optical disc wherein the disc is rotated at a constant angular verlocity (see column 32, lines 30-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the

rotation controlling device as disclosed by Koudo, the motivation being to lower power consumption and lessen heat generation within the drive.

Regarding claim 18, Goldstein and Koudo disclose all of the limitations of claim 17 as discussed in the claim 17 rejection above. Goldstein further discloses that the controller controls the motor driver to lower the constant angular velocity at which the optical disk is rotated until the data recording error does not occur (see Figure 2, elements 208-228).

Regarding claim 19, Goldstein and Koudo disclose all of the limitations of claim 18 as discussed in the claim 18 rejection above. Goldstein further discloses that if it is determined that the data recording error has occurred, the controller controls the motor driver to rotate the optical disc at the adjusted_constant angular velocity which is one step lower than the predetermined constant angular velocity (see Figure 2, element 220).

Regarding claim 20, Goldstein and Koudo disclose all of the limitations of claim 18 as discussed in the claim 18 rejection above. Goldstein further discloses that if it is determined that the data recording error has occurred, the controller controls the motor driver to rotate the optical disc at the adjusted constant angular velocity which is two steps lower than the predetermined constant angular velocity, according to an extent of the data recording error (see column 10, lines 12-25).

Regarding claim 25, Goldstein discloses an apparatus for reproducing data, the apparatus comprising: a motor driver which controls a motor which rotates an optical disc at a velocity (see Figure 1, element 114); an optical pickup which irradiates light

onto the optical disc, detects the light reflected from the optical disc, and outputs a radio frequency signal corresponding to the reflected light (element 110); a radio frequency signal processor which, in response to the radio frequency signal, generates and outputs a reproduction error signal that indicates whether a data reproduction error occurs (elements 108 and 102); and a controller which, in response to the reproduction error signal, determines whether the data reproduction error occurs, and if it is determined that the data reproduction error has occurred, controls the motor driver to rotate the optical disc at an adjusted velocity which is lower than a predetermined velocity (element 102; see also column 9, line 40 thru column 10, line 25), wherein the adjusted velocity is one step or two steps lower than the predetermined velocity, according to an extent of the data recording error (see column 10, lines 12-25). Although Goldstein discloses a recording speed, since the method disclosed by Goldstein deals with the rotation of the disc in relation to the amount of data in the buffer, the method of Goldstein will apply to both recording and reproducing operations since reproducing operations also require the use of a buffer and can be reproduced at different speeds (see column 15, lines 18-50). Goldstein does not distinctly disclose "constant angular velocity.'

Koudo discloses a device for controlling the rotation of an optical disc wherein the disc is rotated at a constant angular verlocity (see column 32, lines 30-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the

rotation controlling device as disclosed by Koudo, the motivation being to lower power consumption and lessen heat generation within the drive.

Regarding claim 26, Goldstein and Koudo disclose all of the limitations of claim 25 as discussed in the claim 25 rejection above. Goldstein further discloses that the controller controls the motor driver to lower the constant angular velocity at which the optical disc is rotated until the data reproduction error does not occur (see Figure 2, elements 208-228).

Regarding claim 27, Goldstein and Koudo disclose all of the limitations of claim 26 as discussed in the claim 26 rejection above. Goldstein further discloses that if it is determined that the data reproduction error has occurred, the controller controls the motor driver to rotate the optical disc at the adjusted_constant angular velocity which is one step lower than the predetermined constant angular velocity (see Figure 2, element 220).

Regarding claim 28, Goldstein and Koudo disclose all of the limitations of claim 26 as discussed in the claim 26 rejection above. Goldstein further discloses that if it is determined that the data reproduction error has occurred, the controller controls the motor driver to rotate the optical disc at the adjusted_constant angular velocity which is two steps lower than the predetermined constant angular velocity, according to an extent of the data reproduction error (see column 10, lines 12-25).

Regarding claim 33, Goldstein discloses a method of recording and/or reproducing data, the method comprising: at least one of: recording the data on an optical disc that is rotating at a predetermined velocity, and reproducing the data from

an optical disc that is rotating at a predetermined velocity; determining whether at least one of a data recording error or a data reproduction error occurs; if it is determined that the data recording error has occurred, rotating the optical disc at an adjusted velocity which is lower than the predetermined velocity, and recording the data on the optical disc that is rotating at the adjusted velocity; and if it is determined that the data reproduction error has occurred, rotating the optical disc at an adjusted velocity which is lower than the predetermined velocity, and reproducing the data from the optical disc that is rotating at the adjusted velocity, wherein the adjusted velocity is one step or two steps lower than the predetermined velocity, according to an extent of the data recording error (see column 10, lines 12-25). Although Goldstein discloses a recording speed, Goldstein does not distinctly disclose "constant angular velocity.'

Koudo discloses a device for controlling the rotation of an optical disc wherein the disc is rotated at a constant angular verlocity (see column 32, lines 30-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo, the motivation being to lower power consumption and lessen heat generation within the drive.

Regarding claim 34, Goldstein and Koudo disclose all of the limitations of claim 33 as discussed in the claim 33 rejection above. Goldstein further discloses determining whether at least one of the data recording error or the data reproduction error occurs while the optical disc is rotated at the adjusted constant angular velocity (see Figure 2, element 218); if the data recording error is determined to exist, rotating

the optical disk at a constant angular velocity that is lower than the adjusted constant angular velocity, and recording the data on the optical disc (element 220); and if the data reproducing error is determined to exist, rotating the optical disk at a constant angular velocity that is lower than the adjusted constant angular velocity, and reproducing the data from the optical disc (element 220).

Regarding claim 35, Goldstein and Koudo disclose all of the limitations of claim 34 as discussed in the claim 34 rejection above. Goldstein further discloses repeatedly determining whether at least one of the data recording error or the data reproducing error occurs while the optical disk is rotating (see column 9, lines 31-34).

Regarding claim 36, Goldstein and Koudo disclose all of the limitations of claim 35 as discussed in the claim 35 rejection above. Goldstein further discloses rotating the optical disc at a lower constant angular velocity whenever at least one of the data recording error or the data reproducing error is detected (see Figure 2, element 220).

Regarding claim 37, Goldstein and Koudo disclose all of the limitations of claim 2 as discussed in the claim 2 rejection above. Goldstein further discloses determining whether the data recording error occurs while the optical disc is rotated at the constant angular velocity that is lower than the adjusted constant angular velocity, and if the data recording error is determined to exist, rotating the optical disk at a constant linear velocity that is lower than the constant angular velocity that is lower than the adjusted constant angular velocity, and recording the data on the optical disc (see column 9, line 40 thru column 10, line 25).

Regarding claim 38, Goldstein and Koudo disclose all of the limitations of claim 10 as discussed in the claim 10 rejection above. Goldstein further discloses determining whether the data reproduction error occurs while the optical disc is rotated at the constant angular velocity that is lower than the adjusted constant angular velocity, and if the data recording error is determined to exist, rotating the optical disk at a constant linear velocity that is lower than the constant angular velocity that is lower than the adjusted constant angular velocity, and recording the data on the optical disc (see column 9, line 40 thru column 10, line 25).

Regarding claim 39, Goldstein and Koudo disclose all of the limitations of claim 20 as discussed in the claim 20 rejection above. Goldstein further discloses that if it is determined that the data recording error has occurred when the constant angular velocity is two steps lower than the predetermined constant angular velocity, the controller controls the motor driver to rotate the optical disc at a constant linear velocity that is lower than the two steps lower constant angular velocity (see column 9, line 40 thru column 10, line 25).

Regarding claim 40, Goldstein and Koudo disclose all of the limitations of claim 28 as discussed in the claim 28 rejection above. Goldstein further discloses that if it is determined that the data reproduction error has occurred when the constant angular velocity is two steps lower than the predetermined constant angular velocity, the controller controls the motor driver to rotate the optical disc at a constant linear velocity that is lower than the two steps lower constant angular velocity (see column 9, line 40 thru column 10, line 25).

5. Claims 7, 8, 15, 16, 21-24, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldstein (EP Pat. No. 1,160,787 A2) in view of Koudo et al. (hereinafter Koudo – US Pat. No. 5,956,307) and further in view of Choi et al. (hereinafter Choi – 7,092,334 B2).

Regarding claim 7, Goldstein and Koudo disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Neither Goldstein nor Koudo disclose a disc defect detection method.

Choi discloses a method of detecting a defective area of a disc comprising determining whether the data recoding error occurs due to a defect of the optical disc (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Regarding claim 8, Goldstein, Koudo, and Choi disclose all of the limitations of claim 7 as discussed in the claim 7 rejection above. Choi further discloses that the determining whether the data recoding error occurs due to the defect of the optical disc is accomplished using at least one of a focus error signal, a tracking error signal, and an ATIP sync signal (see Figure 2, element S50 – note the clear use of the ATIP signal for the error detection; see also Figure 6, element S121 – note the clear use of the FE and TE signals in the error detection).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Regarding claim 15, Goldstein and Koudo disclose all of the limitations of claim 9 as discussed in the claim 9 rejection above. Neither Goldstein nor Koudo disclose a disc defect detection method.

Choi discloses a method of detecting a defective area of a disc comprising determining whether the data reproduction error occurs due to a defect of the optical disc (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Regarding claim 16, Goldstein, Koudo, and Choi disclose all of the limitations of claim 15 as discussed in the claim 15 rejection above. Choi further discloses using at least one of a focus error signal, a tracking error signal, and an ATIP sync signal to determine whether the data reproduction error occurs due to a defect of the optical disc (see Figure 2, element S50 – note the clear use of the ATIP signal for the error

detection; see also Figure 6, element S121 – note the clear use of the FE and TE signals in the error detection).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Regarding claim 21, Goldstein and Koudo disclose all of the limitations of claim 17 as discussed in the claim 17 rejection above. Neither Goldstein nor Koudo disclose a disc defect detection method.

Choi discloses a method of detecting a defective area of a disc wherein the controller determines whether the data recording error occurs due to a defect of the optical disc (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Regarding claim 22, Goldstein, Koudo, and Choi disclose all of the limitations of claim 21 as discussed in the claim 21 rejection above. Choi further discloses that the controller determines whether the data recording error occurs due to the defect of the optical disc using at least one of a focus error signal, a tracking error signal, and an

ATIP sync signal which are output from the radio frequency signal processor (see Figure 2, element S50 – note the clear use of the ATIP signal for the error detection; see also Figure 1, elements 50 and 60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Regarding claim 23, Goldstein, Koudo, and Choi disclose all of the limitations of claim 22 as discussed in the claim 22 rejection above. Choi further discloses that the controller determines the data recording error occurs when a value of the focus error signal or the tracking error signal exceeds a predetermined range, or errors occur in at least a predetermined number of ATIP sync signals to be periodically input (see Figure 2, elements S20, and S50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Regarding claim 24, Goldstein, Koudo, and Choi disclose all of the limitations of claim 22 as discussed in the claim 22 rejection above. Choi further discloses that the controller divides the value of the focus error signal or the tracking error signal into a

plurality of ranges, determines in which of the ranges the recording error belongs, and determines to what extent the constant angular velocity is to be lowered according to the magnitude of the value of the focus error signal or the tracking error signal (see column 3, line 35 thru column 4, line 5 – see especially column 4, lines 1-5 – note that the microcomputer lowers the speed 'adequately').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Regarding claim 29, Goldstein and Koudo disclose all of the limitations of claim 25 as discussed in the claim 25 rejection above. Neither Goldstein nor Koudo disclose a disc defect detection method.

Choi discloses a method of detecting a defective area of a disc wherein the controller determines whether the data reproduction error occurs due to a defect of the optical disc (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Regarding claim 30, Goldstein, Koudo, and Choi disclose all of the limitations of claim 26 as discussed in the claim 26 rejection above. Choi further discloses that the controller determines whether the data reproduction error occurs due to the defect of the optical disc using at least one of a focus error signal, a tracking error signal, and an ATIP sync signal which are output from the radio frequency signal processor (see Figure 2, element S50 – note the clear use of the ATIP signal for the error detection; see also Figure 1, elements 50 and 60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Regarding claim 31, Goldstein, Koudo, and Choi disclose all of the limitations of claim 30 as discussed in the claim 30 rejection above. Choi further discloses that the controller determines the data recording error occurs when a value of the focus error signal or the tracking error signal exceeds a predetermined range, or errors occur in at least a predetermined number or more of ATIP sync signals to be periodically input (see Figure 2, elements S20, and S50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting

method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Regarding claim 32, Goldstein, Koudo, and Choi disclose all of the limitations of claim 30 as discussed in the claim 30 rejection above. Choi further discloses that the controller divides the value of the focus error signal or the tracking error signal into a plurality of ranges, determines in which of the ranges the recording error belongs, and determines to what extent the constant angular velocity is to be lowered according to the magnitude of the value of the focus error signal or the tracking error signal (see column 3, line 35 thru column 4, line 5 – see especially column 4, lines 1-5 – note that the microcomputer lowers the speed 'adequately').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the recording device as disclosed by Goldstein with the rotation controlling device as disclosed by Koudo and the defective area detecting method as disclosed by Choi, the motivation being to be able to tell whether a recording error occurred because of a buffer under-run or a defective area on the optical disc.

Response to Arguments

6. Applicant's arguments with respect to claim1, 9, 17, 25, and 33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam R. Giesy whose telephone number is (571) 272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARG 2/19/2008

WAYNE YOUNG
SUPERVISORY PATENT EXAMINER